

But. it will be said, the behaviour of the lower animals is regulated by directive instinct. what scope can be left to them for spontaneous action? Their behaviour, indeed, approaches the mechanical. But it does not exactly resemble clock-work or the movements of iron filings in the presence of a magnet. In the lower ranges of the animal kingdom the promptings of instinct are very peremptory and extraordinarily detailed. But cases arise for which they do not provide, and we may see ants, bees, and spiders hesitate and make trials when confronted with unusual difficulties. In fact the directions of instinct do not cover the whole of the ground, and leave some opportunities for the making of mistakes and of attempts to rectify them. The behaviour of insects is occasionally guided by trial and refection, and in this differs altogether from the action of machinery. You may see a line of ants checked and apparently perturbed by an unusual obstacle: one of them finds a way to circumvent it, and the rest follow its spontaneous lead. Bees will vary the shape of their cells in order to carry their combs round an obstruction. Higher up the scale, as the promptings of instinct become less and less elaborate, the scope for experiment— for making choices—widens: we have already seen that birds, for instance, will on occasion depart very considerably from their instinctive

procedure. In man the field for spontaneous action is incomparably wider than in any of the animals below him. But the field extends throughout the province of Life. narrow though it be when we reach its humblest regions. There is a period in the life of each plant when certain of its cells appear to be confronted with a choice. And the lively activity that is displayed by the minute unicellular organisms which flit across the